WOODSTOCK

SHOP FOX®

INTERNATIONAL

MODEL M1039

12-SPEED DRILL PRESS

OWNER'S MANUAL

Phone: (360) 734-3482 • On-Line Technical Support: tech-support@shopfox.biz

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WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT THE WRITTEN APPROVAL OF WOODSTOCK INTERNATIONAL, INC.

#7894JK

Printed in China

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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USE THE QUICK GUIDE PAGE LABELS TO SEARCH OUT INFORMATION FAST!

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USE THE QUICK GUIDE PAGE LABELS TO SEARCH OUT INFORMATION FAST!

INTRODUCTION

Woodstock Technical Support

We stand behind our machines! In the event that questions arise about your machine, parts are missing, or a defect is found, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: **tech-support@shopfox.biz**. Our knowledgeable staff will help you troubleshoot problems and send out parts for warranty claims.

If you need the latest edition of this manual, you can download it from **http://www.shopfox.biz**.
If you have comments about this manual, please contact us at:

Woodstock International, Inc.
Attn: Technical Documentation Manager
P.O. Box 2309
Bellingham, WA 98227

About Your New 12-Speed Drill Press

Your new **SHOP FOX®** 12-Speed Drill Press has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

This drill press has a moveable table and headstock, both capable of 360° rotation around the column. The Model M1039 has a 20" swing and is capable of drilling 1¼" steel. Spindle speeds range from 210 RPM to 3300 RPM, and speeds are easily changed via the V-belt pulley system.

Woodstock International, Inc. is committed to customer satisfaction in providing this manual. It is our intent to include all the information necessary for safety, ease of assembly, practical use and durability of this product.

Specifications

Product Dimensions:

Approximate Machine Weight	320 lbs.
Length/Width/Height	34 3/4 x 21 x 70 3/4"
Footprint	23 x 18"

Motor:

Type	TEFC Capacitor Start Induction
Horsepower	1 1/2 HP
Voltage	110/220V (prewired 110V), Single-Phase
Amps	15A/7.5A
Speed	1725 RPM
Cycle	60 Hz
Number of Speeds	1
Power Transfer	V-Belt Drive
Bearings	Shielded and Lubricated

Spindle Information:

Spindle Taper	MT#4
Spindle Travel	4 3/4"
Distance fom Spindle to Column	10"
Distance fom Spindle to Table	28 1/2"
Distance fom Spindle to Base	50 1/4"

Table Information:

Table Length/Width/Thickness	18 3/4 x 16 3/4 x 1 1/2"
Vertical Table movement	Crank Handle Operation
Table Swing	360 deg.
Table Tilt	Left and Right 90 deg.
Table Swivel Around Center	270 deg.
Table Swivel Around Column	360 deg.
Maximum Movement of Worktable	22"
T-Slots	3
T-Slot Length/Width	14 1/2 x 1 1/2"

Operation Information:

Swing	20"
Drilling Capacity	1 1/4" in Steel
Spindle Speeds	210, 310, 400, 440, 630, 670, 1260, 1430, 1650, 2050, 2350, 3300 RPM
Chuck Type/Size	JT3 16mm (5/8") Key Chuck

Other Information:

Column Diameter	3.642"
Illumination	110V, 60W Socket

Controls and Features

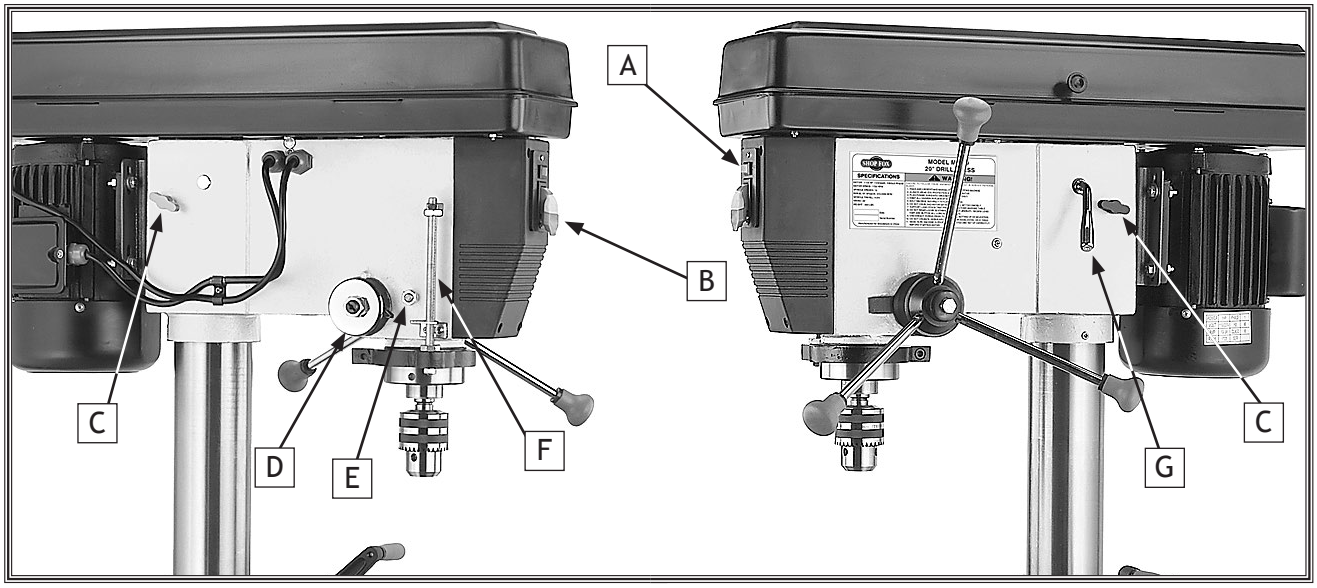


Figure 1. M1039 headstock controls.

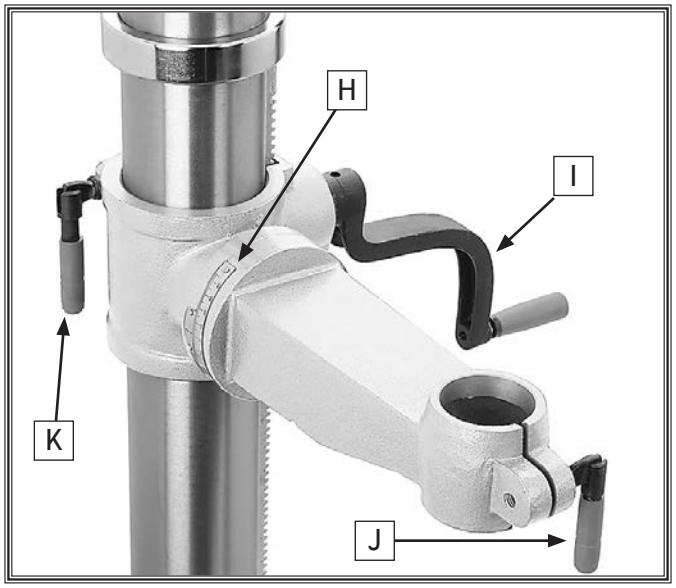


Figure 2. M1039 table controls.

A. Light Switch (110V only)
B. Power Switch
C. Belt Tension Lock
D. Torsion Spring
E. Lash Screw
F. Depth Stop
G. Belt Tension Lever
H. Scale
I. Table Height Crank Handle
J. Small Lock Lever
K. Large Lock Lever

SAFETY

READ MANUAL BEFORE OPERATING MACHINE. FAILURE TO FOLLOW INSTRUCTIONS BELOW WILL RESULT IN PERSONAL INJURY.

⚠DANGER Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

⚠CAUTION Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

NOTICE This symbol is used to alert the user to useful information about proper operation of the equipment, and/or a situation that may cause damage to the machinery.

1. **READ THROUGH THE ENTIRE MANUAL BEFORE STARTING MACHINERY.** Machinery presents serious injury hazards to untrained users.

2. **ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses—they are NOT safety glasses.

3. **ALWAYS WEAR A NIOSH APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Wood dust is a carcinogen and can cause cancer and severe respiratory illnesses.

4. **ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing damage.

5. **WEAR PROPER APPAREL.** DO NOT wear loose clothing, gloves, neckties, rings, or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.

6. **NEVER OPERATE MACHINERY WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.

7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.

8. **KEEP CHILDREN AND VISITORS AWAY.** Keep all children and visitors a safe distance from the work area.

9. **MAKE WORKSHOP CHILD PROOF.** Use padlocks, master switches, and remove start switch keys.

10. **NEVER LEAVE WHEN MACHINE IS RUNNING.** Turn power ***OFF*** and allow all moving parts to come to a complete stop before leaving machine unattended.

11. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.

12. **KEEP WORK AREA CLEAN AND WELL LIT.** Clutter and dark shadows may cause accidents.

13. **USE A GROUNDED EXTENSION CORD RATED FOR THE MACHINE AMPERAGE.** Undersized cords overheat and lose power. Replace extension cords if they become damaged. DO NOT use extension cords for 220V machinery.

14. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY.** Make sure switch is in OFF position before reconnecting.

15. **MAINTAIN MACHINERY WITH CARE.** Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**

17. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make a habit of checking for keys and adjusting wrenches before turning machinery ***ON***.

18. **CHECK FOR DAMAGED PARTS BEFORE USING MACHINERY.** Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other conditions that may affect machine operation. Repair or replace damaged parts.

19. **USE RECOMMENDED ACCESSORIES.** Refer to the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury.

20. **DO NOT FORCE MACHINERY.** Work at the speed for which the machine or accessory was designed.

21. **SECURE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.

22. **DO NOT OVERREACH.** Keep proper footing and balance at all times.

23. **MANY MACHINES WILL EJECT THE WORKPIECE TOWARD THE OPERATOR.** Know and avoid conditions that cause the workpiece to "kickback."

24. **ALWAYS LOCK MOBILE BASES (IF USED) BEFORE OPERATING MACHINERY.**

25. **BE AWARE THAT CERTAIN DUST MAY BE HAZARDOUS TO THE RESPIRATORY SYSTEMS OF PEOPLE AND ANIMALS,** especially fine dust. Make sure you know the hazards associated with the type of dust you will be exposed to and always wear a respirator approved for that type of dust.

Additional Safety Instructions for Drill Presses

⚠WARNING

READ and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. DO NOT risk your safety by not reading!

⚠CAUTION

USE this and other machinery with caution and respect. Always consider safety first, as it applies to your individual working conditions. No list of safety guidelines can be complete—every shop environment is different. Failure to follow guidelines could result in serious personal injury, damage to equipment or poor work results.

1. **EYE/FACE/HAND PROTECTION.** A face shield used with safety glasses is recommended. Always keep hands and fingers away from the drill bit. Never hold a workpiece by hand while drilling! DO NOT wear gloves when operating the drill.

2. **SECURING BIT.** Properly tighten and securely lock the drill bit in the chuck.

3. **CORRECT BIT.** Use only round, hex, or triangular shank drill bits, or tapered shank drill bits mated with the appropriate sleeve.

4. **ADJUSTING KEYS AND WRENCHES.** Remove all adjusting keys and wrenches before turning the machine ***ON***.

5. **DRILLING SHEET METAL.** Never drill sheet metal unless it is securely clamped to the table.

6. **SURFACE/WORKPIECE PREPARATION.** Never turn the drill press ***ON*** before clearing the table of all objects (tools, scrap wood, etc.) DO NOT drill material that does not have a flat surface, unless a suitable support is used.

7. **DAMAGED TOOLS.** Never use tools in poor condition. Dull or damaged cutting tools are hard to control and may cause serious injury.

8. **DRILL OPERATION.** Never start the drill press with the drill bit pressed against the workpiece. Feed the drill bit evenly into the workpiece. Back the bit out of deep holes. Turn the machine ***OFF*** and clear chips and scrap pieces with a brush. Shut power ***OFF***, remove drill bit, and clean table before leaving the machine.

9. **OPERATING SPEED.** Always operate your drill press at speeds that are appropriate for the drill bit size and the material that you are drilling.

10. **MAINTENANCE/SPEED CHANGES.** Never do maintenance or change speeds with the machine plugged in.

11. **MOUNTING WORKPIECES.** Use clamps or vises to secure workpiece before drilling. Position work so you avoid drilling into the table.

12. **TABLE LOCK.** Make sure the table lock is tightened before starting the drill press.

ELECTRICAL

110V/220V Operation

The **SHOP FOX®** Model M1039 is prewired for 110V operation, but may be rewired for 220V operation. To do this, consult the wiring diagram in the back of this manual. Always connect this machine to a dedicated circuit (wire, breaker, plug, receptacle) with a verified ground, using the recommended circuit breakers and plugs/receptacles listed at the bottom of this page.

Never replace a circuit breaker with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. **If you are unsure about the wiring codes in your area or plan to connect your machine to a shared circuit, you may create a fire hazard—consult a qualified electrician to reduce this risk.**

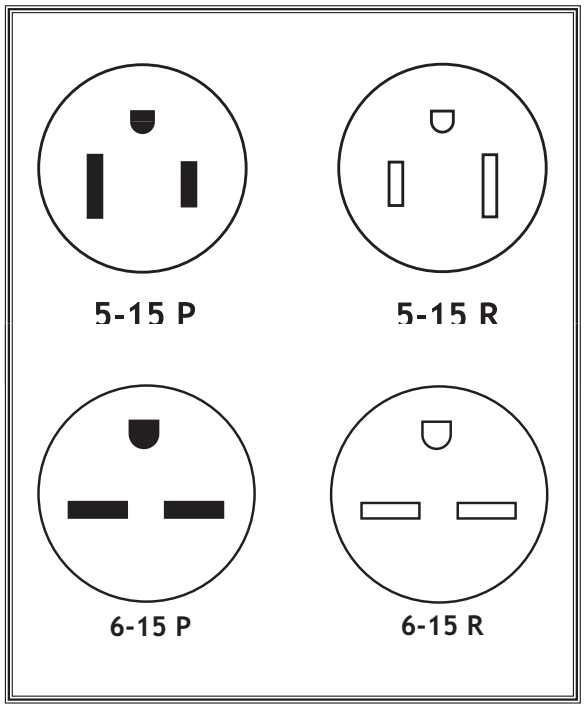


Figure 3. NEMA 5-15 and 6-15 plug wiring.

Extension Cords

We do not recommend using an extension cord for 220V operation. When it is necessary to use an extension cord, use the following guidelines:

- Use cords rated for Standard Service
- Never exceed a length of 50 feet
- Ensure cord has a ground wire and pin
- Do not use cords in need of repair

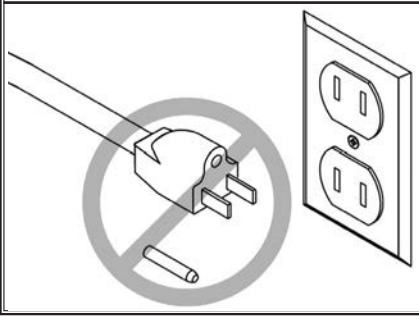
Grounding

This machine must be grounded! The electrical cord supplied with this machine comes with a grounding pin. Do not remove it. If converting to 220V operation, always use a plug with a ground pin. If your outlet does not accommodate a ground pin, have it replaced by a qualified electrician or have an appropriate adapter installed.

Note: *When using an adapter, the adapter must be grounded.*

⚠WARNING

This equipment must be grounded. Under no circumstances should the grounding pin be removed from any three-pronged plug or serious injury may occur.



Operating Voltage	Amp Draw	Breaker Size	Plug/Receptacle	Extension Cord
110V Operation	15 Amps	20A	NEMA 5-15	12 Gauge, NEMA 5-15
220V Operation	7.5 Amps	15A	NEMA 6-15	14 Gauge, NEMA 6-15

SET UP

Unpacking

The **SHOP FOX®** Model M1039 has been carefully packaged for safe transporting. If you notice the machine has been damaged, please contact your authorized **SHOP FOX®** dealer immediately.

Inventory

The following is a description of the main components shipped with the **SHOP FOX®** Model M1039. Lay the components out to inventory them.

Note: *Some parts and hardware may already be installed on the machine. Make sure to check the machine when you use this inventory list.*

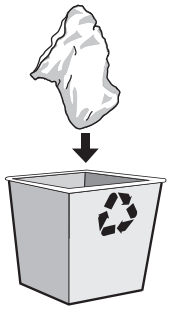
Box Inventory (Figure 4) **Qty**

A. Base 1
B. Table 1
C. Table Bracket 1
D. Headstock 1
E. Column 1

Hardware and Tools (Not Shown)

- Large Lock Lever 1
- Small Lock Lever 1
- Crank handle 1
- Handle 1
- Arbor 1
- Drift Key 1
- Chuck 1
- Chuck Key 1
- Downfeed Handles 3
- Lock Wrench 1
- Pinion 1
- Belt Cover Knob 1
- Hex Wrench 3mm 1
- Hex Wrench 4mm 1
- Hex Wrench 5mm 1
- Hex Bolt M12-1.75 x 45mm 4

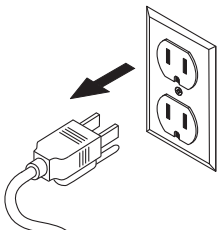
If any parts are missing, examine the packaging for the missing parts. For any missing parts, find the part number in the back of this manual and contact Woodstock International, Inc. at (360) 734-3482 or at **tech-support@shopfox.biz**



⚠WARNING

SUFFOCATION HAZARD! Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.

⚠WARNING



UNPLUG power cord before you do any assembly or adjustment tasks! Otherwise, serious personal injury to you or others may occur!

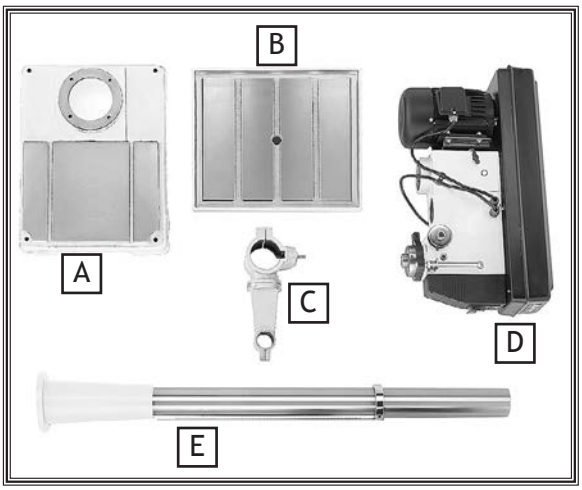


Figure 4. Large component inventory.

Machine Placement

- **Floor Load:** This machine distributes a heavy load in a small footprint. Some floors may require additional bracing to support both machine and operator.
- **Working Clearances:** Consider existing and anticipated needs, size of material to be processed through the machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your drill press.
- **Lighting:** Lighting should be bright enough to eliminate shadow and prevent eye strain.

⚠WARNING

USE helpers or power lifting equipment to lift this drill press. Otherwise, serious personal injury may occur.

⚠CAUTION

MAKE your shop "child safe." Ensure that your workplace is inaccessible to youngsters by closing and locking all entrances when you are away. NEVER allow untrained visitors in your shop when assembling, adjusting or operating equipment.

Cleaning Machine

The table and other unpainted parts of your machine type are coated with a waxy grease that protects them from corrosion during shipment. Clean this grease off with a solvent cleaner or citrus-based degreaser. DO NOT use chlorine-based solvents such as brake parts cleaner or acetone—if you happen to splash some onto a painted surface, you will ruin the finish.

⚠WARNING

NEVER use gasoline or other petroleum-based solvents to clean with. Most have low flash points, which make them extremely flammable. A risk of explosion and burning exists if these products are used. Serious personal injury may occur if this warning is ignored!

⚠CAUTION

ALWAYS work in well-ventilated areas far from possible ignition sources when using solvents to clean machinery. Many solvents are toxic when inhaled or ingested. Use care when disposing of waste rags and towels to be sure they DO NOT create fire or environmental hazards.

Mounting to Shop Floor

Although not required, we recommend that you mount your new machine to the floor. Because this is an optional step and floor materials may vary, floor mounting hardware is not included. Generally, you can either bolt your machine to the floor or mount it on machine mounts. Both options are described below. Whichever option you choose it will be necessary to use a precison level to level your machine.

Bolting to Concrete Floors

Lag shield anchors with lag bolts (**Figure 5**) and anchor studs (**Figure 6**) are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine and choose the best that fits your specific application.

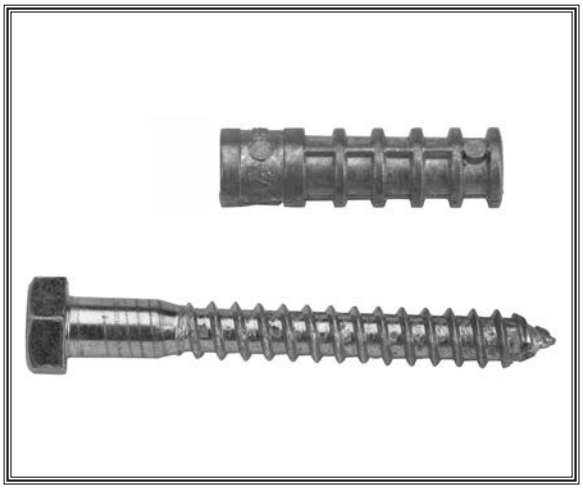


Figure 5. Typical lag shield anchor and lag bolt.

NOTICE

Anchor studs are stronger and more permanent alternatives to lag shield anchors; however, they will stick out of the floor, which may cause a tripping hazard if you decide to move your machine at a later point.

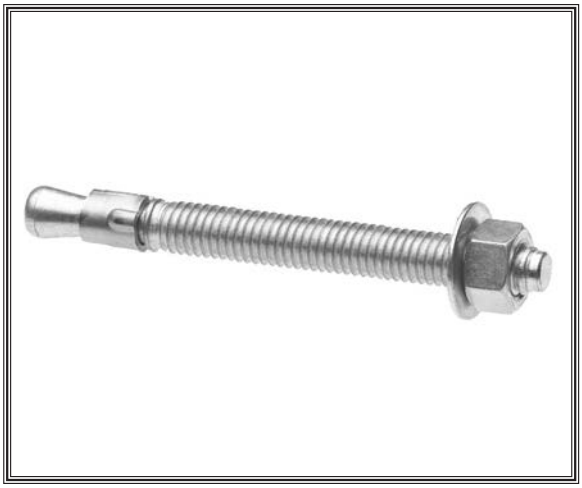


Figure 6. Typical anchor stud.

Using Machine Mounts

Using machine mounts, shown in **Figure 7**, gives the advantage of fast leveling and vibration reduction. If you choose to use machine mounts, attach them to the base before assembling the drill press.

Figure 7. Machine mount example.

Column and Base

The column must be secured on the base to properly assemble your drill press.

To secure the column to the base, do these steps:

1. Place the column on the base and align the mounting holes.

2. Secure the column to the base with the four M12-1.75 x 45 hex bolts, as shown in **Figure 8**.

Figure 8. Column secured to base.

Table Bracket

The table bracket must be installed as described to properly assemble your drill press.

To install the table support, do these steps:

1. Place the pinion in the table bracket, as shown in **Figure 9**, so the pinion and gear teeth mesh together.

2. Mark the top of the rack, as shown in **Figure 10**, to keep track of which end is up.

3. Remove the column ring by loosening the setscrew, and remove the rack.

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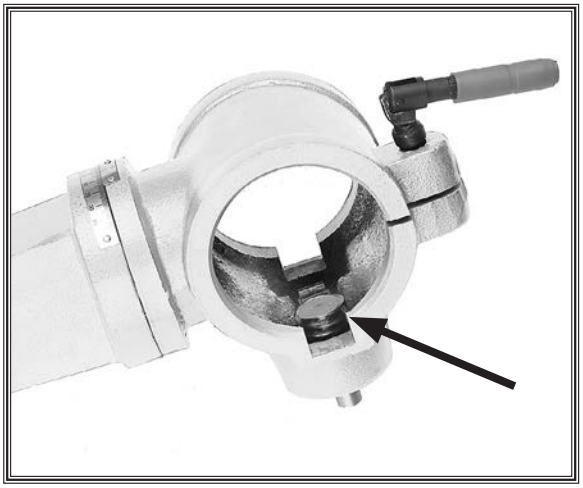


Figure 9. Pinion correctly installed in table bracket.

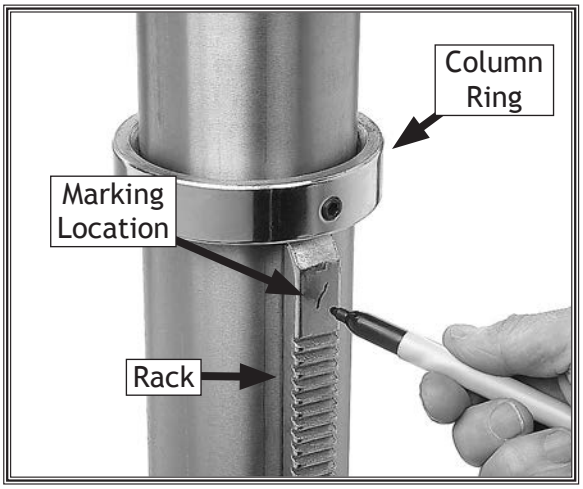


Figure 10. Marking the top of the rack.

4. Place the rack inside of the table bracket, mesh it together with the pinion, and slide the table support/rack assembly over the column, as shown in **Figure 11**.

5. Slide the column ring over the column with the beveled edge facing down (**Figure 12**), fit the beveled edge of the column ring over the rack, and tighten the setscrew.

   Note: *Make sure the rack is seated firmly in the lower ring before tightening the setscrew. Do not over-tighten the setscrew or you may split the column ring.*

6. Install the crank handle over the pinion shaft, and tighten the setscrew in the crank handle against the flat part of the pinion shaft.

7. Thread the handle into the crank handle.

8. Thread the large lock lever into the back of the table bracket approximately three turns, for now.

9. Thread the small lock lever into the front part of the table bracket approximately three turns, for now. The assembly should now be assembled as shown in **Figure 13**.

Figure 11. Sliding table bracket and rack over column.

Figure 12. Correct column ring orientation.

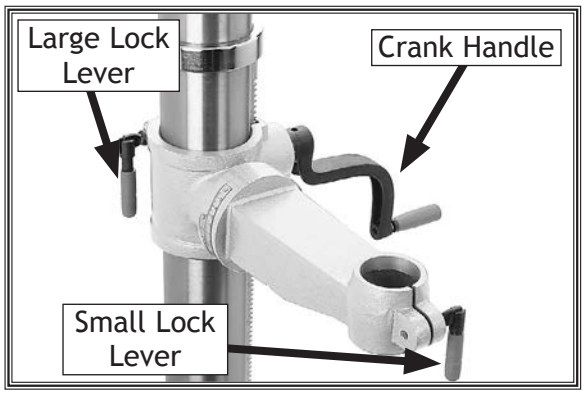


Figure 13. Handles and lock levers installed.

Headstock

The headstock must be mounted on the column/base assembly before the drill press can be operated. Moving and installing the headstock is a two-person job, at the very least. Although the headstock can be lifted directly onto the column while upright, doing so is difficult and potentially dangerous because of the heavy weight involved. We recommend sliding the column into the headstock, then tilting the entire assembly fully upright, as described and shown in this section.

To mount the headstock onto the column, do these steps:

1. Set the top piece of the headstock styrofoam packing approximately six feet away from the column/base assembly.

2. Remove the headstock from the box and place it on the styrofoam packing piece you laid out in **Step 1**.

   Note: *To avoid damaging the machine, be careful not to hold the headstock by the switch or the top part of the belt cover when lifting.*

3. Carefully lay the column/base on its side.

4. Slide the column all the way into the bottom of the headstock (approximately 4"—6").

5. Tilt the entire assembly up (see **Figure 14**) and carefully position the drill press on its base in the fully upright position.

6. Center a tape or ruler on the base, and suspend a plumb bob from the center of the headstock spindle so it is over the tape/ruler as shown in **Figure 15**.

7. Center the headstock directly over the base as indicated by the plumb bob and ruler.

8. Tighten the two headstock setscrews to the column, as shown in **Figure 16**.

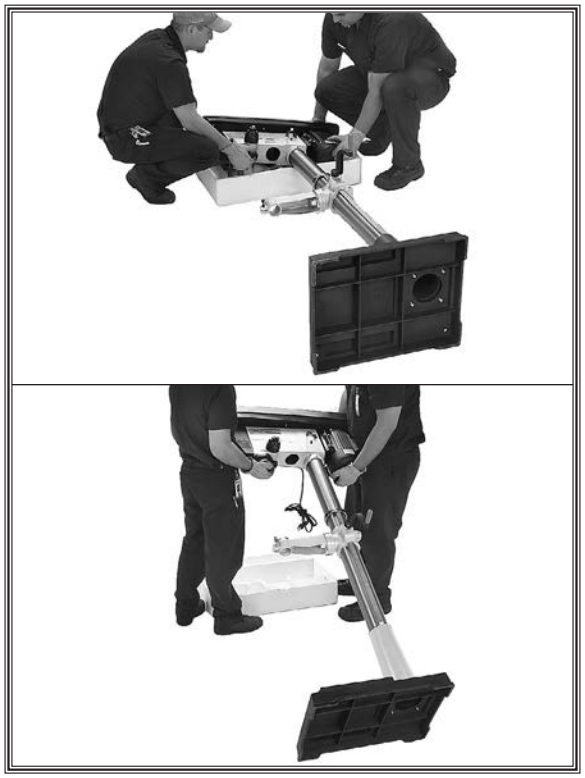


Figure 14. Mounting the headstock.

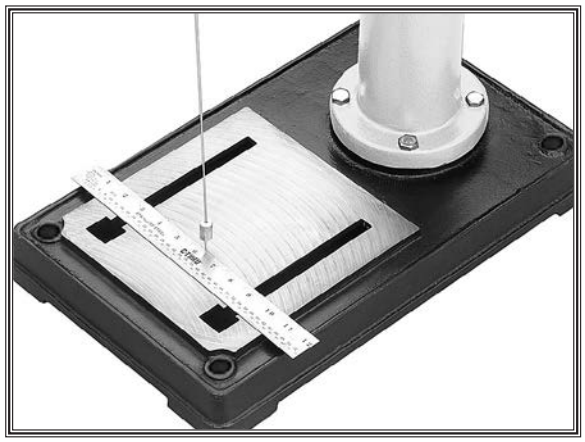


Figure 15. Aligning headstock with base.

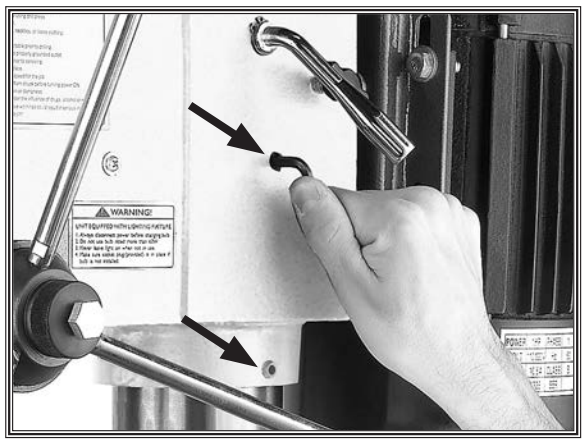


Figure 16. Securing the headstock.

Drill Chuck and Arbor

The drill chuck attaches to the spindle by means of the arbor, shown in **Figure 17**. Matched tapers on the arbor and the inside of the chuck create a semi-permanent assembly when properly joined.

To assemble the drill chuck and mount it to the spindle, do these steps:

1. Use mineral spirits to thoroughly clean the drill chuck, arbor, and spindle sockets and dry all surfaces before assembly. Follow all safety warnings on the container of the mineral spirits. **Failure to clean the mating surfaces may cause the tapered fit to loosen during operation, resulting in separation and an unsafe condition.**

2. Use the chuck key to adjust the jaws of the drill chuck until they are inside the drill chuck body.

3. Place the drill chuck face down on a workbench. The arbor has a short taper and a long taper. Place the short taper into the socket in the back of the drill chuck and tap it with a rubber or wooden mallet, as shown in **Figure 18**. If the chuck fails to remain secure on the arbor, repeat **Steps 1** & **3**.

4. Slide the arbor into the spindle socket while slowly rotating the drill chuck. The socket has a rectangular pocket into which the tang (or flat portion of the arbor shown in **Figure 18**) will fit.

5. Using a rubber mallet, seat the chuck as shown in **Figure 19**.

⚠CAUTION

DO NOT use a steel hammer on the drill chuck to seat the arbor into the spindle. You will damage the chuck and/or spindle, which may make them unusable or unsafe.

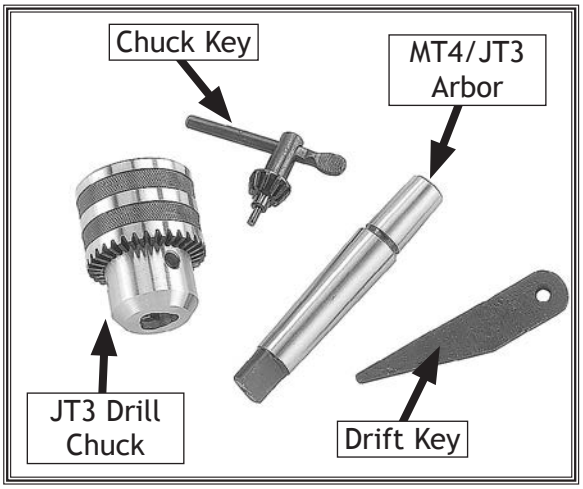


Figure 17. Chuck components and tools.

Figure 18. Seating the arbor into the chuck.

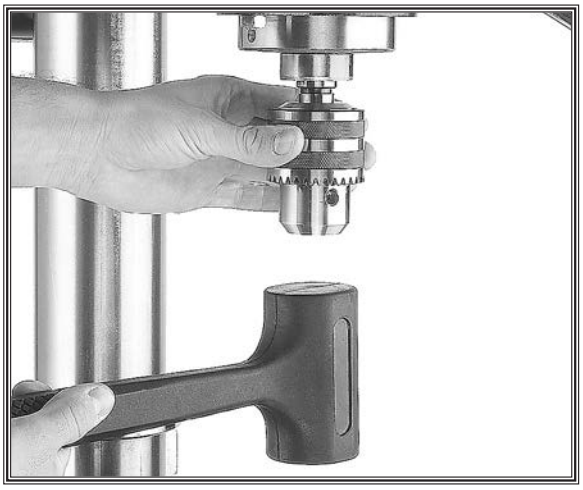


Figure 19. Seating the arbor and chuck into the spindle.

Downfeed Handles and Belt Cover Knob

The downfeed handles must be installed to properly operate the drill press.

To install the downfeed handles, do these steps:

1. Thread the handles into the pinion hub, as shown in **Figure 20**, and tighten.

2. Remove the screw that fastens the belt cover in place and install the belt cover knob in its place (see **Figure 20** for location).

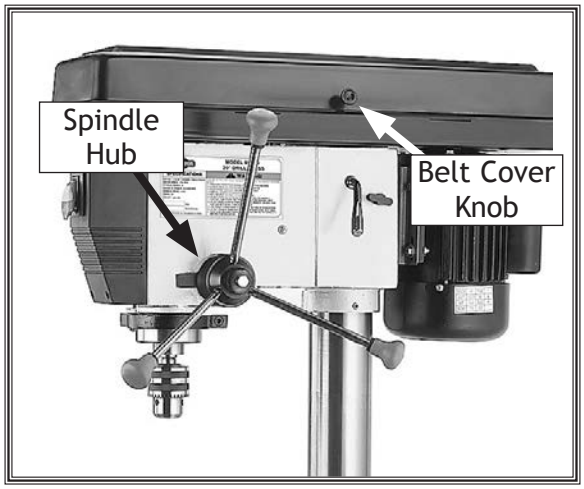


Figure 20. Downfeed handles and belt cover knob installed.

Table

The table must be installed to properly support the workpiece during operation.

To install the table, do these steps:

1. Insert the table shaft into the table bracket.

2. Tighten the small locking lever to secure the table in the table bracket. The table should now be installed as shown in **Figure 21**.

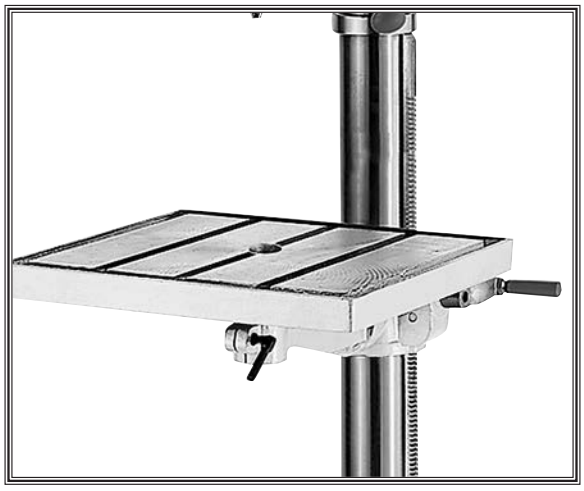


Figure 21. Table installed.

Light (110V Only)

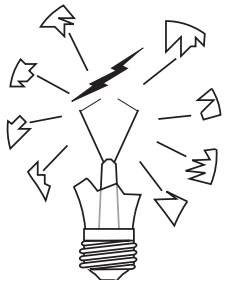
The Model M1039 includes a light socket, **designed for 110V use only**. When the drill press is shipped from the factory, a dust plug is installed in the socket.

To install a light bulb in the drill press, do these steps:

1. Remove the dust plug from the light socket.

2. Install a 60W or smaller light bulb in the location shown in **Figure 22**.

Figure 22. Light socket access (110V only).



⚠WARNING

The light socket included with this drill press is for 110V USE ONLY. If the light socket is used while operating at 220V, the light bulb WILL EXPLODE, potentially causing serious personal injury.

Test Run

Before installing a drill bit, test run the machine to isolate any problems that may occur.

1. Plug the drill press into the power supply.

2. Turn the drill press ***ON***; if there is a problem, turn the drill press ***OFF*** immediately.

The drill press should run smoothly, with little or no vibration or rubbing noises. Strange or unusual noises should be investigated and corrected before operating the machine further. See **Page 30** for troubleshooting instructions.

Recommended Adjustments

For your convenience, the adjustments listed below have been performed at the factory and no further setup is required to operate your machine.

However, because of the many variables involved with shipping, some of these adjustments may need to be repeated to ensure optimum results. Keep this in mind as you start to use your new drill press.

Step-by-step instructions for these adjustments can be found in the **SERVICE** section of this manual.

1. **Depth Stop Calibration (Page 26)**

2. **Feed Shaft Spring Tension (Page 27)**

OPERATIONS

General

The Model M1039 will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. **If at any time you are experiencing difficulties performing any operation, stop using the machine!**

If you are an inexperienced operator, we strongly recommend that you read books, trade articles, and/or seek training from an experienced drill press operator before performing any unfamiliar operations. **Above all, your safety should come first!**

WARNING

READ and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. DO NOT risk your safety by not reading!

Installing/Removing Bits

Any drill bit you install in the chuck must be tight enough that it will not come loose during operation.

To install a drill bit, do these steps:

1. UNPLUG THE DRILL PRESS!
2. Open the drill chuck wide enough to accept the shank of the drill bit.
3. Insert the drill bit as far as possible into the chuck WITHOUT allowing the chuck jaws to touch the fluted portion of the bit, and hand tighten the chuck.

   Note: *Make sure small bits are not trapped between the edges of two jaws; if they are, reinstall the drill bit or it will not be secure enough to use.*
4. Final tighten the drill bit with the chuck key.

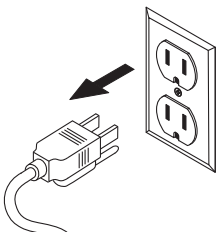
To remove a drill bit, do these steps:

1. UNPLUG THE DRILL PRESS!
2. Use the chuck key to open the drill chuck, and catch the drill bit with a rag to protect your hands.

WARNING

Always wear safety glasses when operating the drill press. Failure to comply may result in serious personal injury.

WARNING



DO NOT investigate problems or adjust the drill press while it is running. Wait until the machine is turned *OFF*, unplugged and all working parts have come to a complete stop before proceeding!

Choosing Speeds

Using the Drill Bit Speed Charts

The charts shown on **Page 20** & **Page 21** are intended as guides only. Always follow the manufacturer's speed recommendations if provided with your drill bits, cutters, or hole saws. Exceeding the recommended speeds may be dangerous.

The speeds shown are intended to get you started. The optimum speed will always depend on various factors, including tool diameter, drilling pressure, material hardness, material quality, and desired finish.

Changing Speeds

The belts in the head of the drill press must be rearranged to change speeds. A chart under the belt cover shows the belt positions needed to make the drill press run at the desired speed.

To change speeds, do these steps:

1. UNPLUG THE DRILL PRESS!

2. Loosen the belt tension lock knobs (shown in **Figure 23**) on both sides of the headstock, so the motor is free to move.

3. Rotate the belt tension lever counterclockwise, as shown in **Figure 24**, to take tension off the V-belts.

4. Locate the desired speed on the speed chart under the belt cover and move the V-belts to the desired V-grooves on the motor, idler, and spindle pulleys.

   For Example: As indicated on the drill press speed chart on **Page 21**, a belt combination of A-2 creates 670 RPM.

   Note: *Both belts may have to be removed before certain speed changes can be made.*

5. Rotate the belt tension lever until the belts are tight. Tighten both lock knobs.

6. Close the cover before plugging in the machine.

⚠WARNING

Always ensure bits are installed properly BEFORE turning the machine *ON*. Failure to follow correct drill bit installation procedures can lead to serious personal injury.

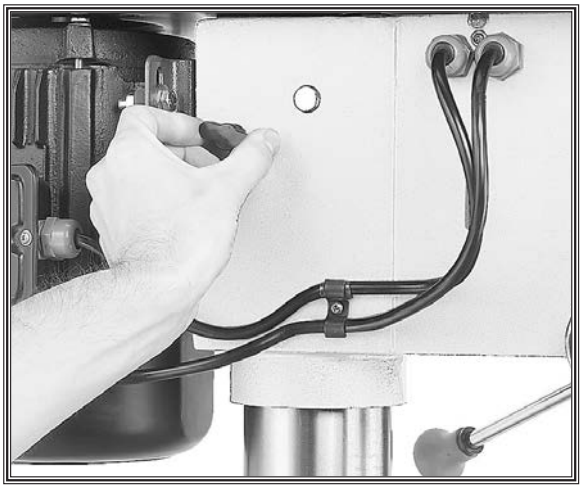


Figure 23. Loosening the lock knobs (both sides).

Figure 24. Using the belt tension lever.

Drill, Cutter, and Hole Saw Suggested RPM Chart

ALWAYS follow the drill, saw, or cutter manufacturer's recommended RPM specifications. **ALWAYS** wear safety glasses. **DO NOT** use your drill press to exceed the drilling, cutting, or sawing RPM or the feed rate of your bit or cutter. Otherwise serious personal injury can occur.

The RPMs listed below are merely suggestions to help you use your drill press in the event that you cannot find a basic starting RPM point. The final RPMs may differ based on the material drilled, the pressure you apply, and the cut-quality needed. Remember, even if the RPM and all other settings are correct, cooling the tool with a lubricant and drilling a pilot hole may also be required. Refer to **WARNINGS and TIPS**, trade journals, training manuals, and other educational resources for in-depth instructions and safety knowledge.

For current product line, refer to: http://www.steelex.biz/drilling.cfm.

Sanding Sleeves or Grinding Bits	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1", 1-1/2", 2"	2000	1725	1000	3100	3100	3100
Twist Type Drill Bits: (Wood, Plastic, and Metal)						
1/16" to 3/16"	3000	3000	2500	3000	3000	3000
1/4" to 3/8"	3000	1500	2000	1200	2500	1000
7/16" to 5/8"	1500	750	1500	750	1500	600
11/16" to 1"	750	500	-	400	1000	350
Spade Drill Bits: (Wood)						
1/4" to 1/2"	2000	1500	-	-	-	-
5/8" to 1"	1750	1500	-	-	-	-
1-1/8" to 1-1/2"	1500	1000	-	-	-	-
Spade with Spur Drill Bits: (Wood and Plastic)						
3/8" to 1"	2000	1800	500	-	-	-
Brad Point Drill Bits: (Wood and Plastic)						
1/8"	1800	1200	1500	-	-	-
1/4"	1800	1000	1500	-	-	-
3/8"	1800	750	1500	-	-	-
1/2"	1800	750	1000	-	-	-
5/8"	1800	500	750	-	-	-
3/4"	1400	250	750	-	-	-
7/8"	1200	250	500	-	-	-
1"	1000	250	250	-	-	-
Forstner Drill Bits: (Wood and Plastic)						
1/4" to 11/16"	2400	1600	250	-	-	-
3/4" to 1-1/16"	1800	1200	250	-	-	-
1-1/8" to 1-7/16"	1200	800	250	-	-	-
1-1/2" to 2-1/8"	600	450	-	-	-	-
2-1/4" to 3-1/8"	480	250	-	-	-	-
Multi-Spur Drill Bits: (Wood)						
2-1/8" to 4"	250	250	-	-	-	-
Countersink Cutters: (Wood, Plastic, and Metal)						
2-Flute Cutter	1400	1400	-	-	-	-
5-Flute Cutter	1000	750	750	250	250	250
Plug Cutters: (Wood)						
3/8" to 1/2"	1200	1000	-	-	-	-
5/8" to 1"	800	600	-	-	-	-
Carbide Rosette Cutters: One-Piece Shear Type (Wood)						
2-1/2" to 3"	1800	500	-	-	-	-
Rosette Cutters: Replaceable Carbide-Knife Type (Wood)						
2-1/4" to 3-1/8"	350	250	-	-	-	-

WARNINGS and TIPS

- **WARNING**: The larger the drill bit or hole saw and the slower the RPM, the greater the chance the tool could aggressively grab the workpiece, damage the tool and workpiece and cause injury. High RPMs can melt plastic, burn wood, and dull the tool.
- **WARNING**: Use a 5-Flute cutter when cutting into plastics, brass, aluminum, and mild steel. A 2-Flute cutter can aggressively grab the workpiece and damage the tool.
- **TIP:** To increase the life of drill bits, cutters, hole saws, and improve cut quality, use a lubricant equivalent to these:
  Plastics: use a soapy-water lubricant
  Brass: use a water-based lubricant
  Mild Steel: use an oil-based lubricant
  Aluminum: use a paraffin-based lubricant
  Cast Iron: use a pipe-thread cutting lubricant
  Wood: use no lubricant.
- **TIP:** Raise the drill bit, cutter, or hole saw often to clear chips and cool the tool.
- **TIP**: When drilling plastics with spade bits, use a spade bit with spurs.
- **TIP**: Plug cutters and rosette cutters are for wood only; however, carbide-tipped bits and cutters cut at a higher RPM, and can cut materials other than wood depending on cutter type. Carbide makes better cuts and lasts longer than HSS steel.
- **TIP:** When using hole saws, apply firm and even pressure, so the saw teeth contact the surface all at the same time-not at an angle. You can also flip the workpiece and finish drilling from the other side.
- **TIP:** To prevent drill bit wandering, use a center punch to start the drill bit.

Saws: Bi-Metal Hole Saws (Most Materials)															
Hole Saw Diameter	Soft Wood	Hard Wood	Plastic	Mild Steel	Cast Iron	Brass	Aluminum	Hole Saw Diameter	Soft Wood	Hard Wood	Plastic	Mild Steel	Cast Iron	Brass	Aluminum
9/16"	1150	870	1320	580	400	790	900	2-7/8"	240	180	275	120	80	160	180
5/8"	1100	825	1250	550	365	730	825	3"	230	170	260	115	75	150	170
11/16"	1000	750	1140	500	330	665	750	3-1/16"	220	165	250	110	75	150	170
3/4"	920	690	1050	460	300	600	690	3-1/8"	220	165	250	110	70	140	165
13/16"	850	635	970	425	280	560	635	3-3/16"	210	155	240	105	70	140	165
7/8"	780	585	890	390	260	520	585	3-1/4"	210	155	240	105	70	140	155
15/16"	740	555	845	370	245	495	555	3-5/16"	200	150	225	100	70	130	155
1"	700	525	800	350	235	470	525	3-3/8"	200	150	225	100	65	130	150
1-1/16"	650	480	740	325	215	435	480	3-7/16"	200	150	225	100	65	130	150
1-1/8"	600	450	685	300	200	400	450	3-1/2"	190	140	215	95	65	130	145
1-3/16"	570	430	650	285	190	380	425	3-9/16"	190	140	215	95	65	120	145
1-1/4"	550	410	625	275	180	360	410	3-5/8"	190	140	215	95	60	120	140
1-5/16"	520	390	595	260	175	345	390	3-11/16"	180	135	205	90	60	120	140
1-3/8"	500	375	570	250	165	330	375	3-3/4"	180	135	205	90	60	120	135
1-7/16"	480	360	545	240	160	315	360	3-13/16"	180	135	205	90	60	120	135
1-1/2"	460	345	525	230	150	300	345	3-7/8"	180	135	205	90	60	120	135
1-9/16"	440	330	500	220	145	290	330	4"	170	130	195	85	55	110	130
1-5/8"	420	315	475	210	140	280	315	4-1/16"	170	130	195	85	55	110	120
1-11/16"	410	310	465	205	130	260	295	4-1/8"	160	120	180	80	55	110	120
1-3/4"	390	290	445	195	130	260	295	4-3/16"	160	120	180	80	55	110	120
1-13/16"	380	285	435	190	125	250	285	4-1/4"	160	120	180	80	55	100	120
1-7/8"	360	270	400	180	120	240	270	4-5/16"	160	120	180	80	55	100	120
2"	340	255	385	170	115	230	255	4-3/8"	160	120	180	80	50	100	120
2-1/16"	330	245	375	165	110	220	245	4-7/16"	150	110	170	75	50	100	105
2-1/8"	320	240	365	160	105	210	240	4-1/2"	150	110	170	75	50	100	105
2-3/16"	310	230	355	155	105	205	240	4-9/16"	150	110	170	75	50	95	100
2-1/4"	300	225	340	150	100	200	225	4-5/8"	150	110	170	75	50	95	100
2-5/16"	290	215	330	145	100	195	225	4-11/16"	150	110	170	75	50	95	100
2-3/8"	280	210	320	140	95	190	220	4-3/4"	150	110	170	75	50	95	95
2-7/16"	280	210	320	140	95	185	210	4-13/16"	130	100	150	65	45	90	95
2-1/2"	270	200	310	135	90	180	205	4-7/8"	130	100	150	65	45	90	90
2-9/16"	270	200	310	135	85	175	200	5"	130	100	150	65	45	90	90
2-5/8"	260	195	295	130	85	170	195	5-1/4"	120	90	135	60	40	85	85
2-11/16"	260	195	295	130	85	165	190	5-1/2"	120	90	135	60	40	85	85
2-3/4"	250	185	285	125	80	160	185	5-3/4"	110	80	125	55	35	75	75
2-13/16"	250	185	285	125	80	160	185	6"	110	80	125	55	35	75	75

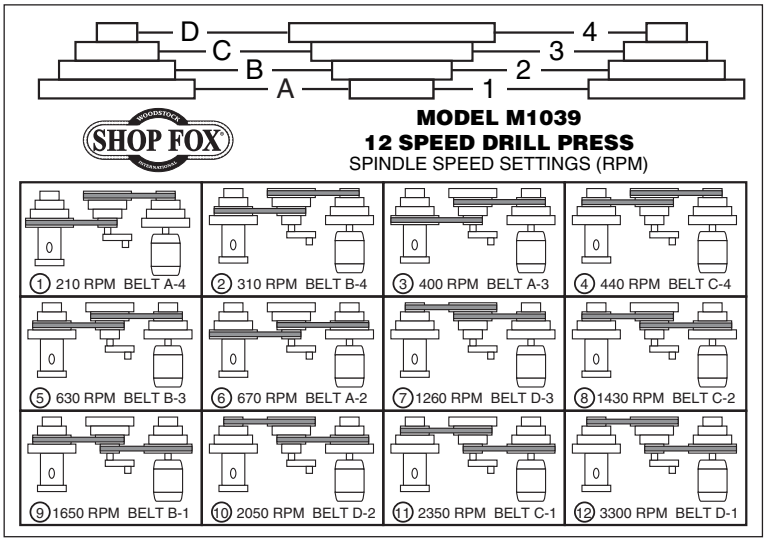


Figure 25. Belt configuration and speed settings.

Drilling

The Model M1039 is designed for drilling holes in wood or metal. The basic operation of a drill press is lining up your drill bit with the intended hole location, turning the drill press ***ON***, and using the down feed levers to move the spinning drill bit into the workpiece.

For safe operation and optimum results, it is very important to follow these guidelines and those on Page 20 when drilling:

CLEARING CHIPS: Raise the drill bit often to clear chips and cool the drill bit. This will ease the work of the drill press motor and extend the life of your drill bits.

SECURING WORKPIECE TO TABLE: Secure the workpiece to the table or in a vise that is secured to the table before drilling.

PROTECTING TABLE: Protect the table by placing the workpiece on scrap wood, or center the location of the hole to be drilled over the pocket in the table when through drilling. Also, make use of the depth stop so that the drill bit goes no deeper than necessary.

USING CORRECT SPEEDS: Use the correct speed for the diameter of the drill bit being used and the type of material being drilled. Refer to the **Drill Bit Speed Charts** on **Page 20** & **Page 21** to help you choose the correct speed for your application.

Depth Stop

The Model M1039 has a depth stop that allows you to drill repeated non-through holes of same depth every time.

The depth stop consists of a stud attached to the quill, with two hex nuts that can be lowered or raised on the stud so the lower nut (depth nut) hits a stop bracket when the drill bit is lowered. The upper hex nut (upper jam nut) is then used to secure the depth nut in place so it doesn't move with repeated operations. **Figure 26** shows the various depth stop components.

To set the depth stop, do these steps:

1. Lower the drill bit to the required height.

2. Thread the depth nut against the stop bracket.

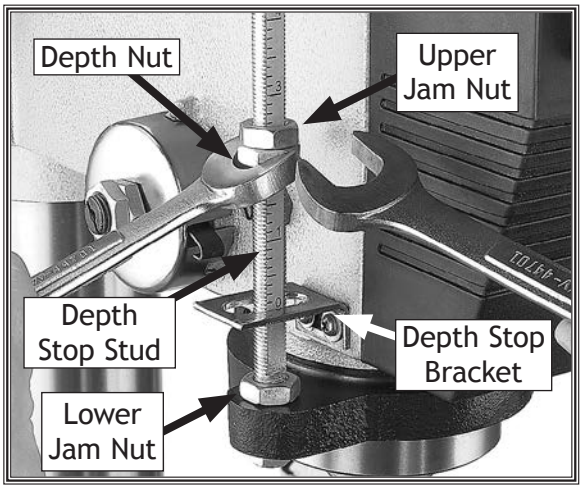


Figure 26. Depth stop components.

3. Lower the upper jam nut against the depth nut.

4. Using wrenches, hold the depth nut in place and tighten the upper jam nut against the depth nut.

   Note: *The scale on the depth stop can be recalibrated if it gets moved or has changed since the factory setting. Refer to* ***Depth Stop Calibration*** *on* ***Page 26*** *for instructions on how this is done.*

Adjusting Table

The table can be raised/lowered, rotated, and tilted 90° left or right. Table adjustment controls are shown in **Figure 27**.

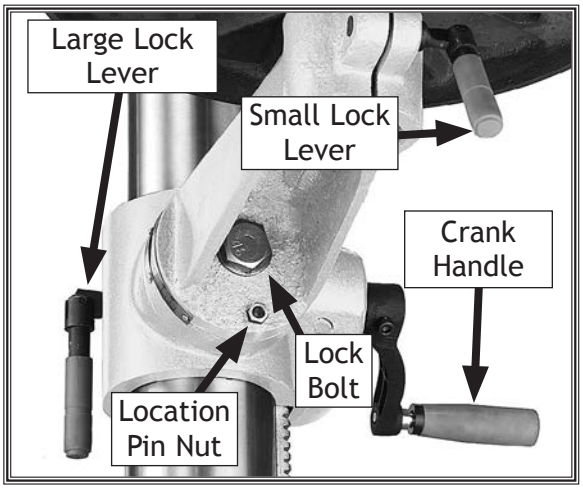


Figure 27. Typical table adjustment controls.

Table Height

1. Loosen the large lock lever.

2. Adjust the height.

3. Lock the large lock lever.

Table Rotation

1. Loosen the small lock lever.

2. Rotate the table as necessary.

3. Lock the table small lock lever.

Table Tilt

1. Tighten the location pin nut to draw the location pin out of the hole.

   Note: *The location pin is friction fit in the hole to lock the table at 0°. When reinstalling, set the table to 0°, back the nut off, and tap the pin back in the hole.*

2. Loosen the lock bolt and tilt the table to the desired angle (make sure table lock lever is locked, so the table won't fall out).

3. Tighten the lock nut bolt.

Arbor Removal

The arbor can be removed to install other Morse Taper tooling in the spindle. A drift key is included to help remove the arbor or other tooling from the spindle. Usually, once the chuck and arbor have been properly mounted together, they are considered semi-permanent connections. (If you would like to install a different chuck, we recommend getting a new arbor for that chuck.)

To remove the drill chuck and arbor, do these steps:

1. UNPLUG THE DRILL PRESS!

2. Rotate the spindle handles until the drift key slot is exposed in the side of the quill.

3. Tighten the lower jam nut against the depth stop bracket. The quill should not return up into the head casting when the depth stop is adjusted this way.

4. Rotate the spindle until the inner drift key slot is aligned with the outer slot, as shown in **Figure 28**. You will see through the spindle when the slot is properly aligned.

5. Insert the drift key into the drift key slot.

6. Hold a downfeed handle with one hand, and slightly loosen the lower jam nut with the other hand. This will allow the quill to rise, trapping the drift key.

7. Hold the drill chuck with one hand, and tap on the drift key with a rubber or wooden mallet, as shown in **Figure 29**, until the arbor releases from the spindle taper.

8. Hold a downfeed handle with one hand, and loosen the lower jam nut with the other hand.

9. Carefully retract the quill into the head stock.

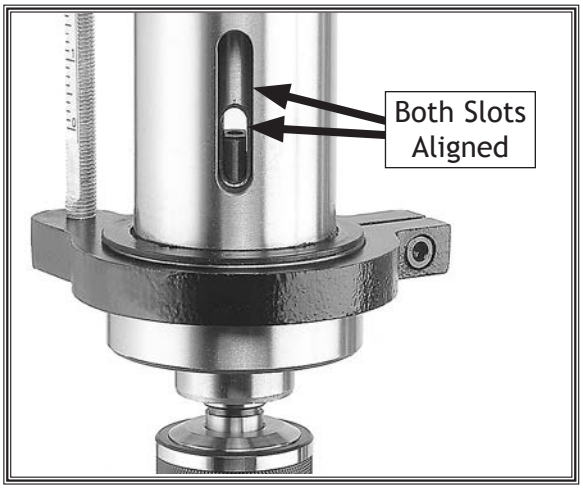


Figure 28. Drift key slots aligned.

Figure 29. Arbor removal.

MAINTENANCE

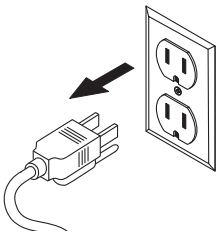
General

Regular periodic maintenance on your **SHOP FOX®** Model M1039 will ensure its optimum performance. Make a habit of inspecting your machine each time you use it.

Check for the following conditions and repair or replace when necessary:

- Loose mounting bolts.
- Loose chuck and/or arbor.
- Worn switch.
- Worn or damaged cords and plugs.
- Damaged V-belt.
- Any other condition that could hamper the safe operation of this machine.

⚠WARNING



MAKE SURE that your machine is unplugged during all maintenance procedures! If this warning is ignored, serious personal injury may occur.

Cleaning

Frequently blow-off sawdust with compressed air. This is especially important for the internal working parts and motor. Dust build-up around the motor is a sure way to decrease its life span.

Occasionally it will become necessary to clean the internal parts with more than compressed air. To do this, remove the table top and clean the internal parts with a citrus cleaner or mineral spirits and a stiff wire brush or steel wool. Make sure the internal workings are dry before using the saw again, so that wood dust will not accumulate. If any essential lubrication is removed during cleaning, relubricate those areas.

Table, Column, & Base

Tables can be kept rust-free with regular applications of products like SLIPIT. For long term storage you may want to consider products like Boeshield T-9.

Lubrication

Since all bearings are sealed and permanently lubricated, simply leave them alone until they need to be replaced. Do not lubricate them.

V-Belts

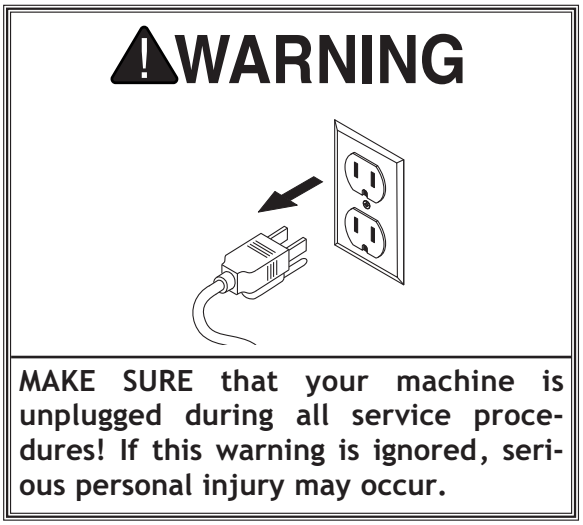
Inspect regularly for tension and wear. Check pulleys to ensure that they are properly aligned. See **Changing Speeds** on **Page 19** for more information about removing/installing belts if you need help replacing the belts.

SERVICE

General

This section covers the most common service adjustments or procedures that may need to be made during the life of your machine.

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: **tech-support@shopfox.biz**.



MAKE SURE that your machine is unplugged during all service procedures! If this warning is ignored, serious personal injury may occur.

Depth Stop Calibration

The drill press comes fitted with a depth stop to use when drilling multiple holes at the same depth. The scale on this depth stop can be calibrated if it ever becomes incorrect.

To calibrate the depth stop, do these steps:

1. Loosen the lower jam nut and calibration nut shown in **Figure 30**.

2. Use the calibration nut to zero the depth stop scale with the depth stop bracket.

3. Hold the depth stop at zero, and tighten the lower jam nut to hold the depth stop in position.

4. Test the depth stop by measuring how far the spindle actually moves with respect to where you set the depth stop.

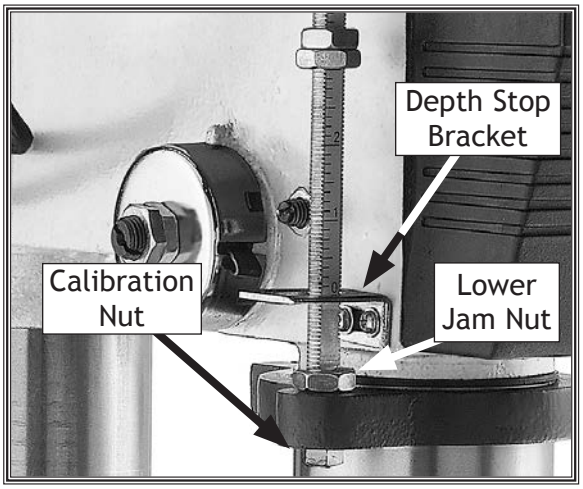


Figure 30. Depth stop calibration.

Feed Shaft Spring Tension

The feed shaft return spring is adjusted at the factory; however, during the life of the drill press you may want to adjust the feed shaft return spring so the return pressure suits your operating needs.

To adjust the feed shaft spring tension, do these steps:

1. UNPLUG THE DRILL PRESS!

2. Wipe off any oil on the spring lock cover (**Figure 31**) so it does not slip in your fingers when you hold the cover from spinning.

3. While holding the spring lock cover against the side of the head stock so the cover stays splined with the locking lug; loosen the jam nut and loosen the cover nut approximately 1/4" (see **Figure 32**).

4. Put on heavy leather gloves to protect your hands from possible lacerations if the spring uncoils during the next step.

5. Pull the cover outward just enough to disengage the spring-cover lock slot from the locking lug.

   Note: *It is important to keep a good grip during this step. Letting go of the cover will cause the spring to rapidly uncoil.*

6. Rotate the cover counterclockwise to increase spring tension, or let the cover slowly unwind in the clockwise direction to reduce spring tension.

7. Engage the next available spring-cover lock slot with the locking lug and hold the spring lock cover tightly against the side of the head stock.

8. Snug the cover nut against the spring cover just until the nut stops, and then back off the nut approximately 1/3 turn, or just enough so there is no binding at complete spindle travel.

9. Hold the cover nut and tighten the jam nut against the cover nut.

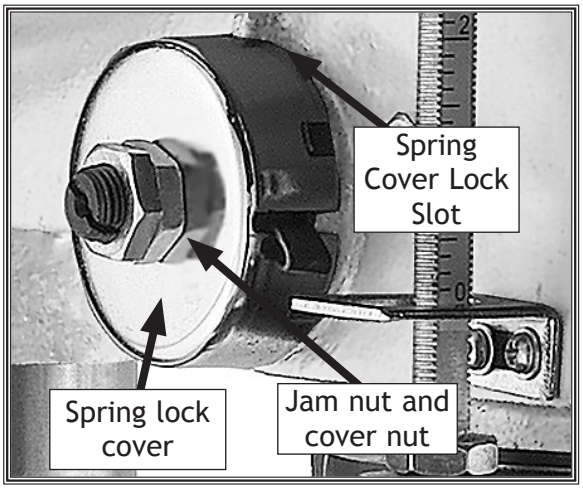


Figure 31. Feed shaft spring.

Figure 32. Loosening spring nut.

⚠CAUTION

A high tension coiled spring is underneath the cover. Put on heavy leather gloves to protect yours hands from possible lacerations when removing the cover.

SERVICE

Electrical Components

Figure 33. Power and light switch wiring.

Figure 35. Motor junction box wiring.

Figure 34. 110V light socket.

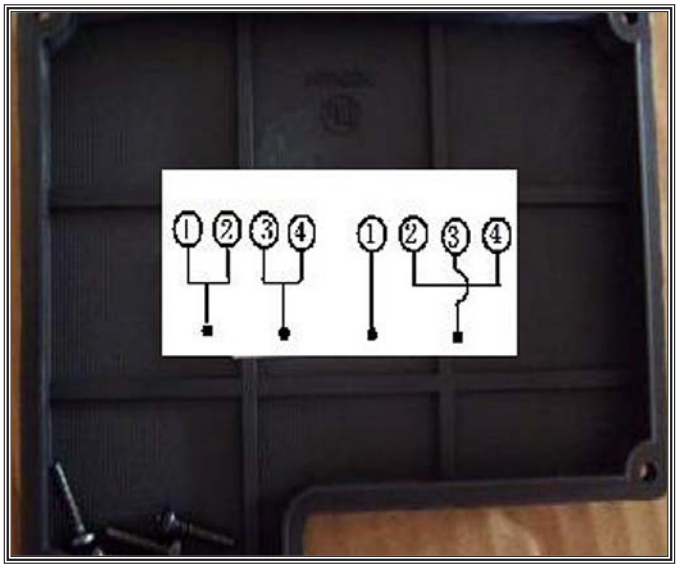
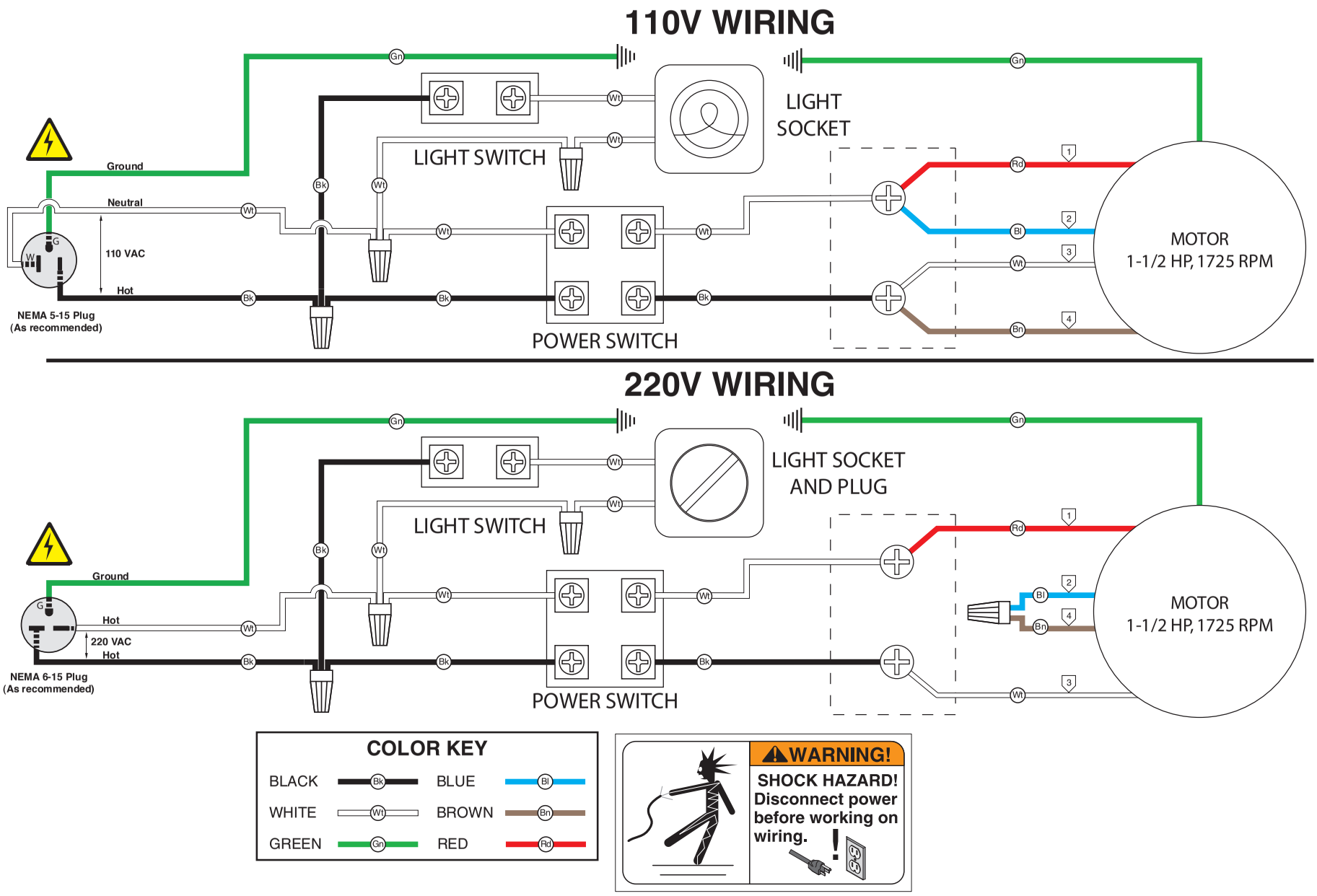
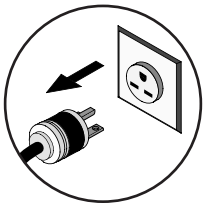


Figure 36. Wiring diagram on inside of junction box cover.



NOTICE: **These motor wiring diagrams are current at the time of printing; however, always use the diagram on the inside of the junction box cover when rewiring your motor!**

Troubleshooting

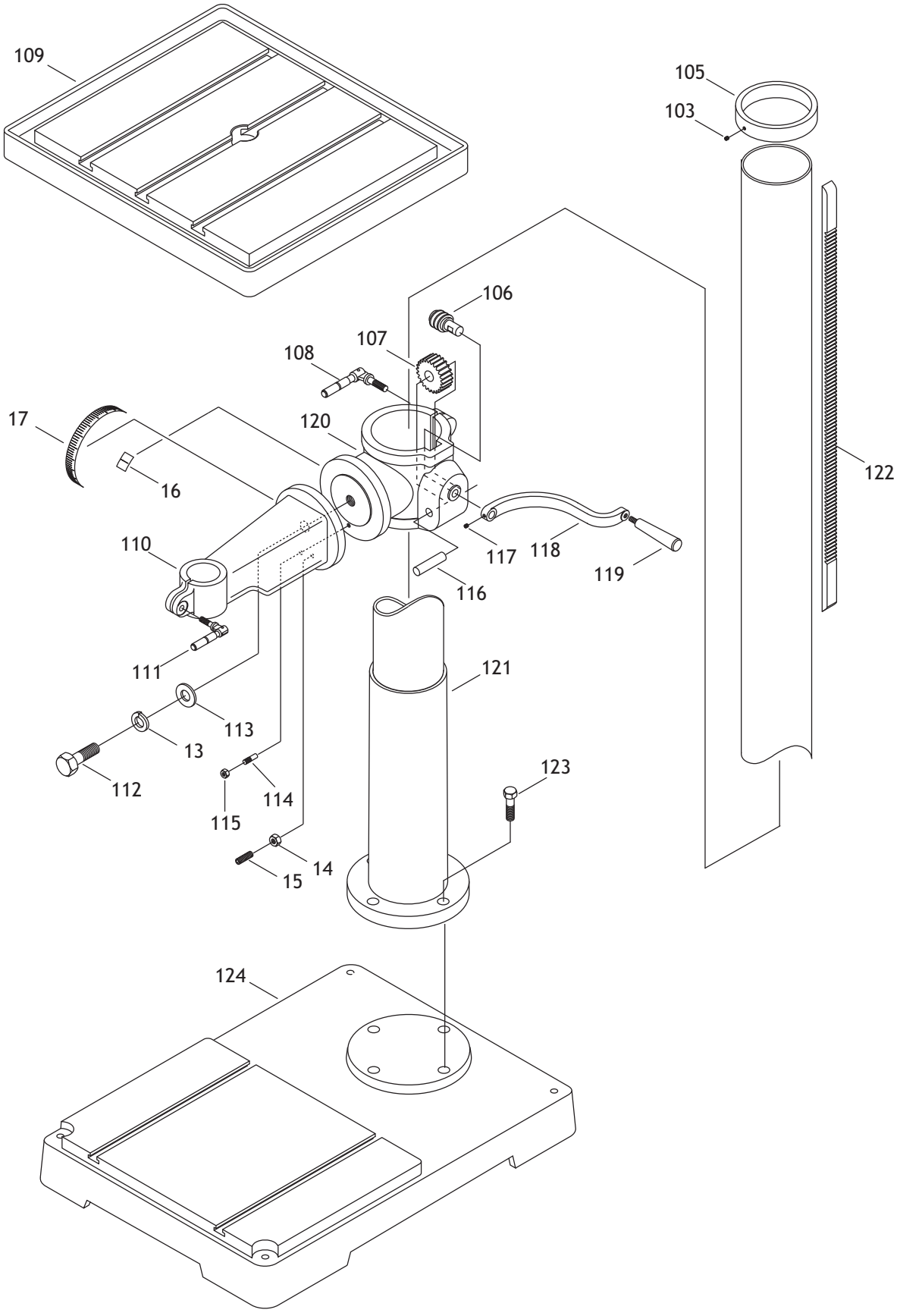


This section covers the most common problems and corrections with this type of machine. **WARNING! DO NOT make any adjustments until power is disconnected and moving parts have come to a complete stop!**

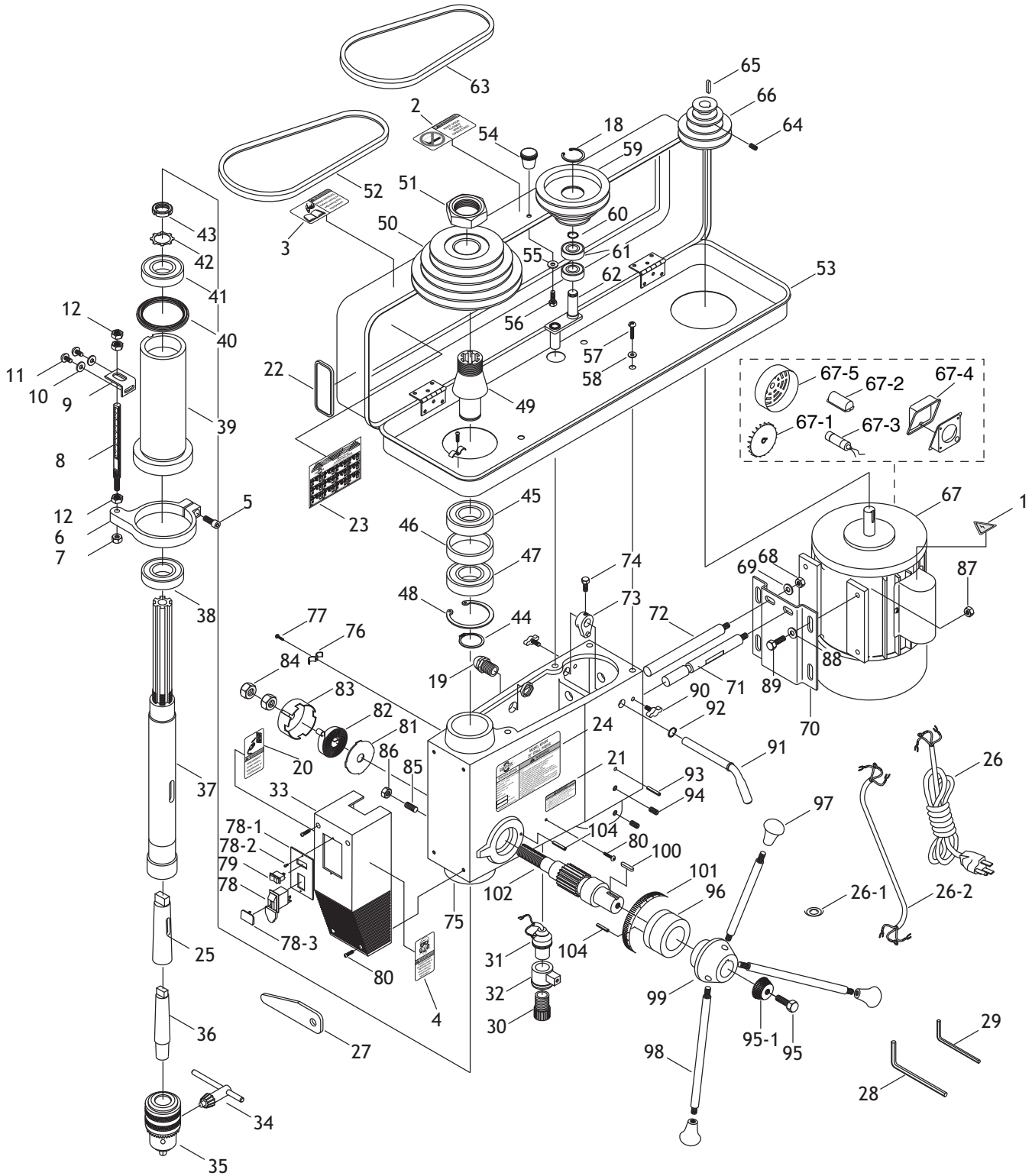
PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine does not start or a breaker trips.	1. Plug or receptacle at fault or wired incorrectly. 2. Start capacitor is faulty. 3. Motor connection is wired Incorrectly. 4. Power supply is faulty, or is switched OFF. 5. Safety switch key at fault. 6. ON/OFF switch is faulty. 7. Cable or wiring is open or has high resistance. 8. Motor is at fault.	1. Test power plug and receptacle for good contact and correct wiring. 2. Replace capacitor. 3. Correct motor wiring (see **Page 29**). 4. Make sure all hot lines and grounds are operational and have correct voltage on all legs. 5. Install or replace safety key, or replace switch assembly. 6. Replace faulty switch. 7. Troubleshoot wires for internal or external breaks, check for disconnected or corroded connections and repair or replace wiring. 8. Test, repair or replace motor.
Machine stalls or is underpowered.	1. Incorrect spindle speed. 2. Bit is too large for task. 3. Bit is dull. 4. Low power supply voltage. 5. Belt(s) is slipping. 6. Plug or receptacle is at fault. 7. Motor connection wired incorrectly. 8. Pulley slipping on shaft. 9. Motor bearings are at fault. 10. Motor has overheated. 11. Motor at fault.	1. Re-check spindle speed. 2. Use smaller drill bits. Reduce feed rate and spindle speed. 3. Sharpen/replace bit. 4. Make sure hot lines and grounds are operational w/correct voltage. 5. Replace bad belts, align pulleys, and re-tension. 6. Test power plug and receptacle for good contact and correct wiring. 7. Correct motor wiring (see **Page 29**). 8. Replace loose pulley and shaft. 9. Rotate motor shaft for noisy or burnt bearings, repair/replace as required. 10. Clean inside/outside of motor, let cool, and reduce workload on machine. 11. Test, repair or replace motor.
Drilling stops, but motor still operates.	1. Belt is loose or worn. 2. Pulley for spindle shaft or motor is slipping on shaft. 3. Bit slips in chuck.	1. Replace and/or adjust belt. 2. To resecure pulley, do these steps: a. UNPLUG DRILL PRESS. b. Remove setscrew on slipping pulley. c. Align flats on pulley shaft with setscrew hole. d. Reinstall and tighten setscrew. 3. Tighten bit; inspect bit for burrs or other obstructions that might interfere with clamping surface.
Machine has vibration or noisy operation.	1. Motor or component is loose. 2. Belts are slapping belt cover. 3. V-belt(s) is worn or is loose. 4. Motor fan is rubbing on fan cover. 5. Pulley is loose. 6. Machine is incorrectly mounted to floor. 7. Chuck is at fault. 8. Motor bearings are at fault. 9. Spindle bearings at fault.	1. Inspect, replace damaged bolts/nuts. Re-tighten. 2. Replace/realign belts with a new matched set, and retension belts (refer to **Page 19**). 3. Replace belts. 4. Replace/repair dented fan cover, and replace loose or damaged fan. 5. Remove pulley, replace with key as required, and re-install securely. 6. Re-check floor mounting hardware; tighten. 7. Replace out-of-round chuck, use appropriate feed rate and drilling RPM. 8. Check bearings, replace motor or bearings as required. 9. Replace bearing.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Chuck wobbles or is loose on spindle shaft.	1. Foreign material is stuck between chuck-to-spindle mating surface. 2. Damaged chuck.	1. Remove chuck and clean and de-burr tapered chuck and spindle mating surfaces, then reassemble. 2. Replace.
Spindle does not retract completely in uppermost position or it binds.	1. Quill shaft is gummy with sawdust and oil. 2. Feed shaft return spring is weak. 3. Quill deflection screw is binding quill.	1. Clean gummy substance with penetrating oil and lubricate with a light coat of oil. 2. Increase feed shaft return spring tension as described on **Page 27**. 3. Loosen jam nut, and slightly turn out screw where quill binds. Retighten jam nut and recheck for binding and looseness at all spindle locations.
Quill has excessive deflection.	1. Quill shaft is at fault. 2. Quill and/or bearings are worn.	1. Adjust quill screw. 2. Replace quill and/or bearings.
Holes drilled at an angle.	1. Table is not at 90 degrees.	1. Adjust table angle (see **Page 23**).
Drill bit wobbles, holes are oversized.	1. Drill bit incorrectly installed.	1. Remove drill bit and reinstall.

Table/Column Breakdown



Headstock Breakdown



PARTS

Parts List

REF	PART #	DESCRIPTION
1	XM1039001	ELECTRICITY LABEL
2	XM1039002	CLOSE DOOR HORIZ LABEL
3	XM1039003	READ MANUAL LABEL
4	XM1039004	RESP/GLASSES LABEL
5	XM1039005	CAP SCREW M8-1.25 X 20
6	XM1039006	QUILL CLAMP
7	XM1039007	HEX NUT M8-1.25
8	XM1039008	DEPTH STOP SCALE STUD
9	XM1039009	DEPTH STOP BRACKET
10	XM1039010	FLAT WASHER 5MM
11	XM1039011	PHLP HD SCR M5-.8 X 8
12	XM1039012	HEX NUT M12-1.5
13	XM1039013	LOCK WASHER 3/4
14	XM1039014	HEX NUT M8-1.25
15	XM1039015	SET SCREW M8-1.25 X 25
16	XM1039016	INDICATOR
17	XM1039017	DEGREE SCALE
18	XM1039018	INT RETAINING RING 35MM
19	XM1039019	STRAIN RELIEF
20	XM1039020	UNPLUG LABEL
21	XM1039021	DP LIGHTS LABEL
22	XM1039022	SHOP FOX BLACK/AL LABEL
23	XM1039023	SPEED CHART M1039
24	XM1039024	MACHINE ID LABEL
25	XM1039025	SLEEVE MT#4
26	XM1039026	POWER CORD 110V, LONG
26-1	XM1039026-1	WIRE GASKET
26-2	XM1039026-2	MOTOR CORD
27	XM1039027	DRIFT KEY
28	XM1039028	HEX WRENCH 4MM
29	XM1039029	HEX WRENCH 3MM
30	XM1039030	LIGHT DUST PLUG
31	XM1039031	LIGHT SOCKET
32	XM1039032	LIGHT BASE
33	XM1039033	SWITCH BOX
34	XM1039034	CHUCK KEY
35	XM1039035	CHUCK JT3 X 1-16MM
36	XM1039036	ARBOR JT3 x MT#4
37	XM1039037	SPINDLE
38	XM1039038	BALL BEARING 6206ZZ
39	XM1039039	SPINDLE SLEEVE
40	XM1039040	RUBBER WASHER
41	XM1039041	BALL BEARING 6205ZZ
42	XM1039042	TAB WASHER
43	XM1039043	ROUND NUT
44	XM1039044	EXT RETAINING RING 32MM
45	XM1039045	BALL BEARING 6207
46	XM1039046	SPACER
47	XM1039047	BALL BEARING 6207
48	XM1039048	INT RETAINING RING 52MM
49	XM1039049	PULLEY INSERT
50	XM1039050	SPINDLE PULLEY
51	XM1039051	PULLEY NUT
52	XM1039052	V-BELT A-32 4L320
53	XM1039053	PULLEY COVER

REF	PART #	DESCRIPTION
54	XM1039054	ROUND KNOB M5-.8
55	XM1039055	FLAT WASHER 5MM
56	XM1039056	PHLP HD SCR M5-.8 X 10
57	XM1039057	PHLP HD SCR M6-1 X 12
58	XM1039058	FLAT WASHER 6MM
59	XM1039059	CENTER PULLEY
60	XM1039060	EXT RETAINING RING 14MM
61	XM1039061	BALL BEARING 6202
62	XM1039062	CENTER SHAFT
63	XM1039063	V-BELT A-26 4L260
64	XM1039064	SET SCREW M6-1 X 10
65	XM1039065	KEY 5 X 5 X 25
66	XM1039066	MOTOR PULLEY
67	XM1039067	MOTOR 1-½HP
67-1	XM1039067-1	MOTOR FAN
67-2	XM1039067-2	CAPACITOR COVER
67-3	XM1039067-3	S CAPACITOR 400MFD 250VAC
67-4	XM1039067-4	WIRING BOX COVER
67-5	XM1039067-5	FAN COVER
68	XM1039068	NUT M10-1.5
69	XM1039069	FLAT WASHER 10MM
70	XM1039070	MOTOR BASE
71	XM1039071	SLIDE BAR (RIGHT)
72	XM1039072	SLIDE BAR (LEFT)
73	XM1039073	SHIFTER
74	XM1039074	HEX BOLT M8-1.25 X 16
75	XM1039075	HEADSTOCK
76	XM1039076	CLAMP CORD
77	XM1039077	PHLP HD SCR M6-1 X 12
78	XM1039078	SWITCH 110V WITH KEY
78-1	XM1039078-1	SWITCH PLATE
78-2	XM1039078-2	TAP SCREW M4 X 16
78-3	XM1039078-3	SWITCH KEY
79	XM1039079	SWITCH (LIGHT)
80	XM1039080	PHLP HD SCR M5-.8 X 12
81	XM1039081	SPRING COVER
82	XM1039082	FLAT COIL SPRING
83	XM1039083	SPRING CAP
84	XM1039084	HEX NUT M12 X 1.5
85	XM1039085	SPEC SET SCREW M10-1.5 X 30
86	XM1039086	HEX NUT M10-1.5
87	XM1039087	HEX NUT M8-1.25
88	XM1039088	FLAT WASHER 8MM
89	XM1039089	HEX BOLT M8-1.25 X 25
90	XM1039090	KNOB BOLT M10-1.5 X 35
91	XM1039091	SHIFTER BAR
92	XM1039092	EXT RETAINING RING 15MM
93	XM1039093	ROLL PIN 8 X 105MM
94	XM1039094	SET SCREW M10-1.5 X 30
95	XM1039095	HEX BOLT M10-1.5 X 30
95-1	XM1039095-1	PLASTIC LOCK CAP
96	XM1039096	STAFF GAUGE
97	XM1039097	FEED HANDLE KNOB M12-1.75
98	XM1039098	HANDLE
99	XM1039099	HANDLE BODY

REF	PART #	DESCRIPTION
100	XM1039100	KEY 6 X 6 X 20
101	XM1039101	SCALE RING
102	XM1039102	FEED SHAFT
103	XM1039103	SET SCREW M6-1.0 X 10
104	XM1039104	ROLL PIN 4 X 24
105	XM1039105	RACK RING
106	XM1039106	WORM GEAR
107	XM1039107	GEAR
108	XM1039108	LARGE LOCKING LEVER
109	XM1039109	TABLE
110	XM1039110	TABLE ARM BRACKET
111	XM1039111	SMALL LOCKING LEVER
112	XM1039112	HEX BOLT M20-2.5 x 45

REF	PART #	DESCRIPTION
113	XM1039113	FLAT WASHER 3/4
114	XM1039114	PIN
115	XM1039115	HEX NUT M6-1
116	XM1039116	SHAFT
117	XM1039117	SETSCREW M6-1 X 10
118	XM1039118	HANDLE ARM
119	XM1039119	HANDLE
120	XM1039120	TABLE BRACKET
121	XM1039121	COLUMN
122	XM1039122	RACK
123	XM1039123	HEX BOLT M12-1.75 X 30
124	XM1039124	BASE

⚠WARNING

The safety labels on this machine warn and indicate how to protect the operator or bystander from machine hazards. The machine owner MUST maintain the original label location and readability. If a label is removed or becomes unreadable, REPLACE the label before using the machine. For new labels, contact Woodstock International at (360) 734-3482 or www.shopfox.biz.

WARRANTY

Woodstock International, Inc. warrants all Shop Fox machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund at its expense and at its option, the Shop Fox machine or machine part, which in proper and intended use has proven to be defective, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.’s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that Shop Fox machinery complies with the provisions of any law, acts or electrical codes. We do not reimburse for third party repairs. In no event shall Woodstock International, Inc.’s liability under this limited warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all Shop Fox machinery meets high quality and durability standards. We reserve the right to change specifications at any time because of our commitment to continuously improve the quality of our products.

Warranty Registration

Name_____

Street _____

City _____ State_____ Zip_____

Phone #_____ Email_____ Invoice #_____

Model #_____ Serial #_____ Dealer Name_____ Purchase Date_____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. ***Of course, all information is strictly confidential.***

1. How did you learn about us?

_____ Advertisement _____ Friend ____ Local Store
_____ Mail Order Catalog _____ Website ____ Other:

2. How long have you been a woodworker/metalworker?

_____ 0-2 Years _____ 2-8 Years ____ 8-20 Years _____ 20+ Years

3. How many of your machines or tools are **Shop Fox®**?

_____ 0-2 _____ 3-5 ____ 6-9 _____ 10+

4. Do you think your machine represents a good value? _____ Yes ____ No

5. Would you recommend **Shop Fox®** products to a friend? _____ Yes ____ No

6. What is your age group?

_____ 20-29 _____ 30-39 ____ 40-49
_____ 50-59 _____ 60-69 ____ 70+

7. What is your annual household income?

_____ $20,000-$29,000 _____ $30,000-$39,000 ____ $40,000-$49,000
_____ $50,000-$59,000 _____ $60,000-$69,000 ____ $70,000+

8. Which of the following magazines do you subscribe to?

____ Cabinet Maker
____ Family Handyman
____ Hand Loader
____ Handy
____ Home Shop Machinist
____ Journal of Light Cont.
____ Live Steam
____ Model Airplane News
____ Modeltec
____ Old House Journal
____ Popular Mechanics
____ Popular Science
____ Popular Woodworking
____ Practical Homeowner
____ Precision Shooter
____ Projects in Metal
____ RC Modeler
____ Rifle
____ Shop Notes
____ Shotgun News
____ Today's Homeowner
____ Wood
____ Wooden Boat
____ Woodshop News
____ Woodsmith
____ Woodwork
____ Woodworker West
____ Woodworker's Journal
____ Other:

9. Comments:_____

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CUT ALONG DOTTED LINE

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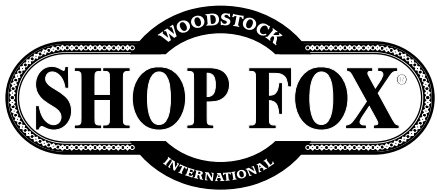

WOODSTOCK INTERNATIONAL INC.
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BELLINGHAM, WA 98227-2309

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